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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,334	09/08/2003	Akitaka Makino	648.43120X00	9217

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ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-3873

EXAMINER

MOORE, KARLA A

ART UNIT	PAPER NUMBER
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1763

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/656,334

Applicant(s)

MAKINO ET AL.

Examiner

Karla Moore

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,7,8,10-20 and 25-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8,10-14,16,17,19,20 and 25-28 is/are rejected.
- 7) ☒ Claim(s) 15 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 7-8, 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,277,199 to Lei et al. in view of U.S. Patent No. 6,062,798 to Muka.

4. Lei et al. disclose a vacuum processing apparatus substantially as claimed and comprising: two processing chambers (Figures 2-7, 14), each processing chamber being configured with top, bottom and side wall portions which are separate from said adjacent processing chamber and having a processing table (conventional) for supporting an object to be processed and carrying out the processing using a gas; a transfer unit (16) coupled to said two adjacent processing chambers which transfers the object to be processed at least one of to and from at least one of said two adjacent processing chamber, each of said two adjacent processing chambers being detachably coupled on one respective side wall portion thereof to said transfer units (column 6, rows 19-24); and a single mass flow controlling device (Figure 7, 70; column 5, rows 19-31, row 66 and column 7, rows 39-52) disposed between said two adjacent chambers for directly supplying gas to one of said adjacent processing chambers for enabling processing of the object to be processed when supported on the processing table thereof. It is noted that Muka et al. teach

Art Unit: 1763

that in a cluster tool minimization of a footprint is of importance (column 2, rows 27-39). It is further noted that the phrase "for directly supplying gas to each of said two adjacent chambers for enabling processing" is seen as an intended use. The courts have ruled that a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

5. However, Muka et al. fail to teach the mass flow controlling unit comprising two separate mass flow controlling devices, disposed with respect to one another in a vertical direction and each for controlling gas supply to one of the processing chambers

6. Muka et al. teaches stacking structures surrounding a cluster tool less floor space can be used and easy access for maintenance is achieved (column 4, rows 10-24).

7. It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to stack mass flow controlling devices for each chamber in a single mass flow controlling unit in Lei et al. in order to take up less floor space and enable easy access for maintenance as taught by Muka et al.

8. Further it is also noted with respect to the vertical arrangement of the parts, the courts have ruled that the mere rearrangement of parts which does not modify the operation of a device is prima facie obvious. In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950). In re Kuhle, 526 F.2d 553, 188 USPQ 7 (CCPA 1975). It would have been obvious to one of ordinary skill in the art that the plural controllers could be arranged in a vertical direction, if desired. This would simply be a design choice that did modify the operation of the device.

9. With respect to claims 7, the mass flow controller is disposed between said two adjacent processing chambers without being fluidly connected to the transfer unit (see Figure 2).

10. With respect to claim 8, see above.

11. With respect to claim 25, the vacuum processing chambers and mass flow control units are fluidly detachably connected on another side wall portion.

12. With respect to claim 27, said transfer unit further enables transfer of the object to be processed between an atmospheric unit which holds the object to be processed outside of said transfer unit and at

Art Unit: 1763

least one of to and from at least one of said two adjacent processing chambers through said transfer unit, as is conventional. See column 1, rows 45-57.

13. It would have been obvious to one of ordinary skill in the art that the plural controllers could be arranged in a vertical direction, if desired. This would simply be a design choice that did modify the operation of the device.

14. Claims 10-14, 16-17, 19-20, 26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,277,199 to Lei et al. in view of U.S. Patent No. 6,062,798 to Muka et al. and Japanese Patent No. 08-127861 A to Naito et al.

15. Lei et al. disclose a vacuum processing apparatus substantially as claimed and comprising: two processing chambers (Figures 2-7, 14), each processing chamber being configured with top, bottom and side wall portions which are separate from said adjacent processing chamber and having a processing table (conventional) for supporting an object to be processed and carrying out the processing using a gas; a transfer unit (16) coupled to said two adjacent processing chambers which transfers the object to be processed at least one of to and from at least one of said two adjacent processing chamber, each of said two adjacent processing chambers being detachably coupled on one respective side wall portion thereof to said transfer units (column 6, rows 19-24); and a single mass flow controlling device (Figure 7, 70; column 5, rows 19-31, row 66 and column 7, rows 39-52) disposed between said two adjacent chambers for directly supplying gas to one of said adjacent processing chambers for enabling processing of the object to be processed when supported on the processing table thereof. It is noted that Muka et al. teach that in a cluster tool minimization of a footprint is of importance (column 2, rows 27-39). It is further noted that the phrase "for directly supplying gas to each of said two adjacent chambers for enabling processing" is seen as an intended use. The courts have ruled that a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

Art Unit: 1763

16. However, Muka et al. fail to teach the mass flow controlling unit comprising two separate mass flow controlling devices, disposed with respect to one another in a vertical direction and each for controlling gas supply to one of the processing chambers

17. Muka et al. teaches stacking structures surrounding a cluster tool less floor space can be used and easy access for maintenance is achieved (column 4, rows 10-24).

18. It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to stack mass flow controlling devices for each chamber in a single mass flow controlling unit in Lei et al. in order to take up less floor space and enable easy access for maintenance as taught by Muka et al.

19. Further it is also noted with respect to the vertical arrangement of the parts, the courts have ruled that the mere rearrangement of parts which does not modify the operation of a device is prima facie obvious. In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950). In re Kuhle, 526 F.2d 553, 188 USPQ 7 (CCPA 1975). It would have been obvious to one of ordinary skill in the art that the plural controllers could be arranged in a vertical direction, if desired. This would simply be a design choice that did modify the operation of the device.

20. Naito et al. teach providing plasma generation means and a plasma processing gas to adjacent chambers of a plural vacuum chamber treating device for the purpose of performing a cleaning process to decompose away reaction by-products (abstract).

21. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided providing plasma generation means and a plasma processing gas in Muka et al. in order to decompose away reaction by-products as taught by Naito et al.

22. With respect to claim 11, see above.

23. With respect to claim 12, the transfer unit has a polygonal shape in plan view and each of the vacuum processing chamber are disposed as claimed. See Figure 5. Further with respect to claim 12, which is drawn to the shape of the transfer unit, the courts have ruled that changes in shape are a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed container was significant. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

Art Unit: 1763

24. With respect to claims 13-14, 16-17 and 19-20, see above.
25. With respect to claim 26, the vacuum processing chambers and mass flow control units are fluidly detachably connected on another side wall portion.
26. With respect to claim 28, said transfer unit further enables transfer of the object to be processed between an atmospheric unit which holds the object to be processed outside of said transfer unit and at least one of to and from at least one of said two adjacent processing chambers through said transfer unit, as is conventional. See column 1, rows 45-57.

Allowable Subject Matter

27. Claims 15 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
28. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach or fairly suggest a vacuum processing apparatus as claimed and further comprising plural controllers detachable from the vacuum processing apparatus as one unit. Additionally, no other prior art was located which had the missing feature/teaching described above along with the requisite motivation for combination with the prior art of record.

Response to Arguments

29. Applicant's arguments with respect to claims 1, 7-8, 10-14, 16-17, 19-20 and 25-28 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date

Art Unit: 1763

of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karla Moore whose telephone number is 571.272.1440. The examiner can normally be reached on Monday-Friday, 9:00 am-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571.272.1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Karla Moore
Primary Examiner
Art Unit 1763
8 January 2006